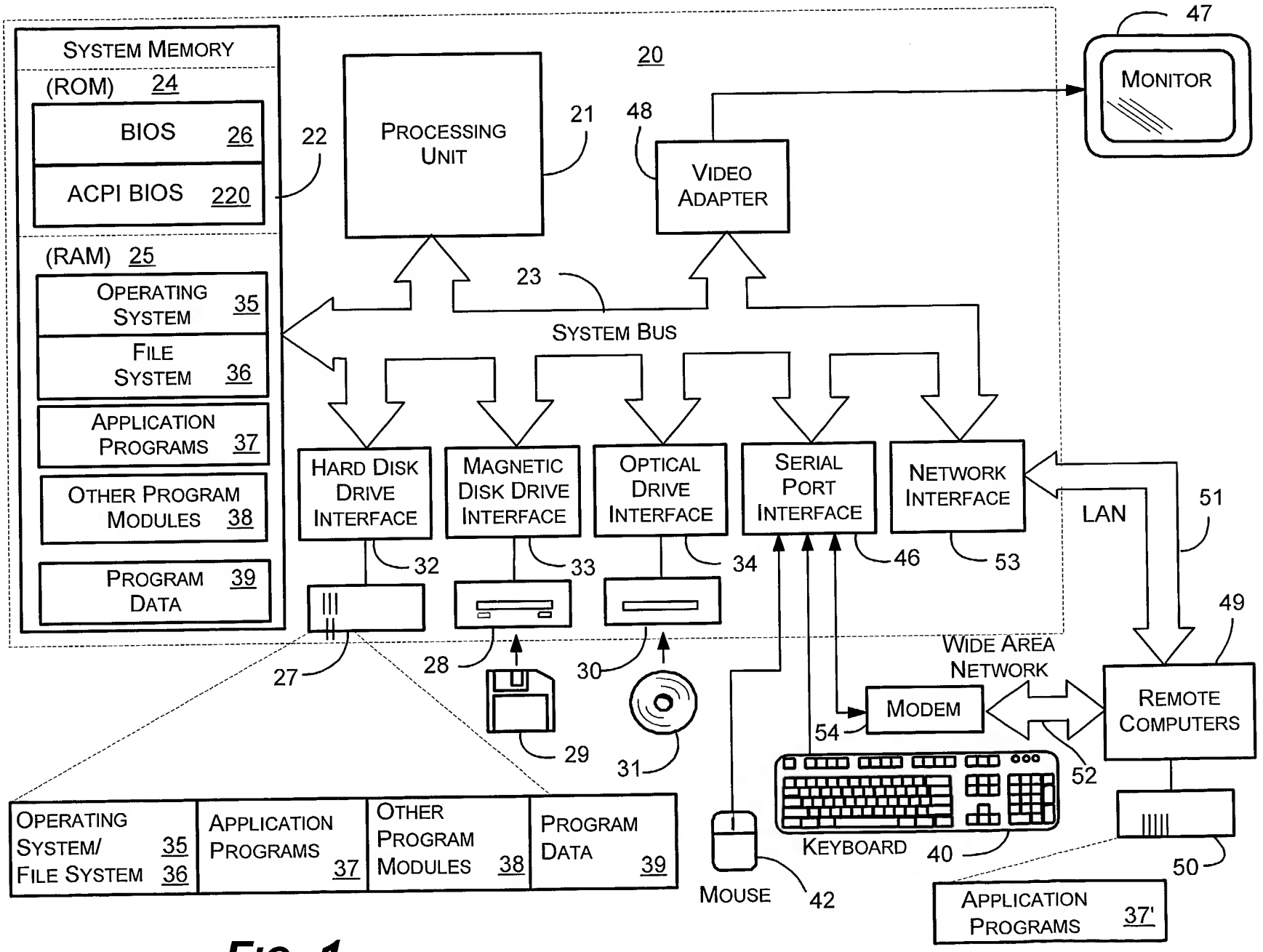

SYSTEM MEMORY
(ROM) 24
BIOS 26
ACPI BIOS 220
(RAM) 25
OPERATING SYSTEM 35
FILE SYSTEM 36
APPLICATION PROGRAMS 37
OTHER PROGRAM MODULES 38
PROGRAM DATA 39
22
PROCESSING UNIT
21
20
48
VIDEO ADAPTER
47
MONITOR
23
SYSTEM BUS
HARD DISK DRIVE INTERFACE
MAGNETIC DISK DRIVE INTERFACE
OPTICAL DRIVE INTERFACE
SERIAL PORT INTERFACE
NETWORK INTERFACE
LAN
51
32
33
34
46
53
49
27
28
30
29
31
WIDE AREA NETWORK
MODEM
54
REMOTE COMPUTERS
52
KEYBOARD
40
50
MOUSE
42
APPLICATION PROGRAMS 37'
OPERATING SYSTEM/ FILE SYSTEM 35 36
APPLICATION PROGRAMS 37
OTHER PROGRAM MODULES 38
PROGRAM DATA 39

FIG. 1

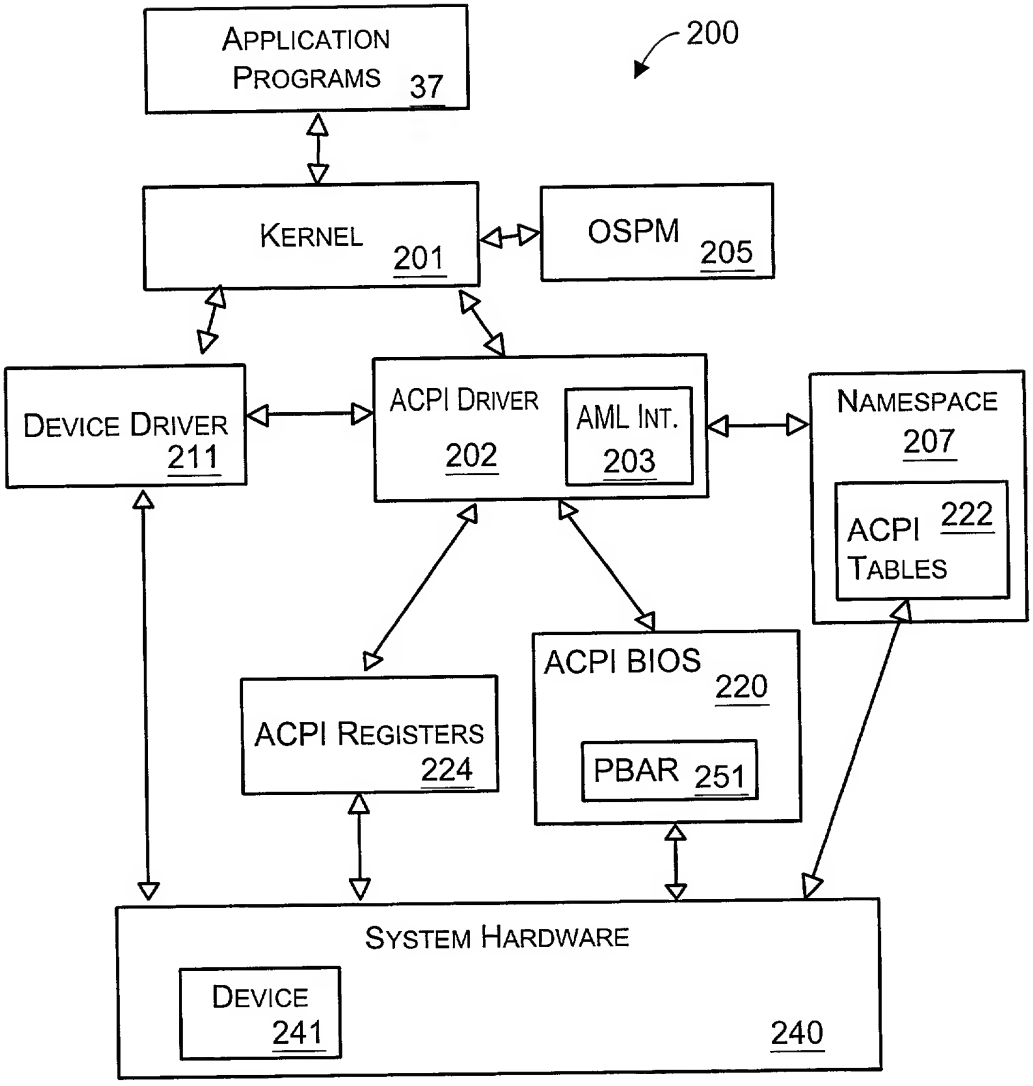

APPLICATION PROGRAMS 37
200
KERNEL 201
OSPM 205
DEVICE DRIVER 211
ACPI DRIVER 202
AML INT. 203
NAMESPACE 207
ACPI 222 TABLES
ACPI REGISTERS 224
ACPI BIOS 220
PBAR 251
SYSTEM HARDWARE
DEVICE 241
240

FIG. 2

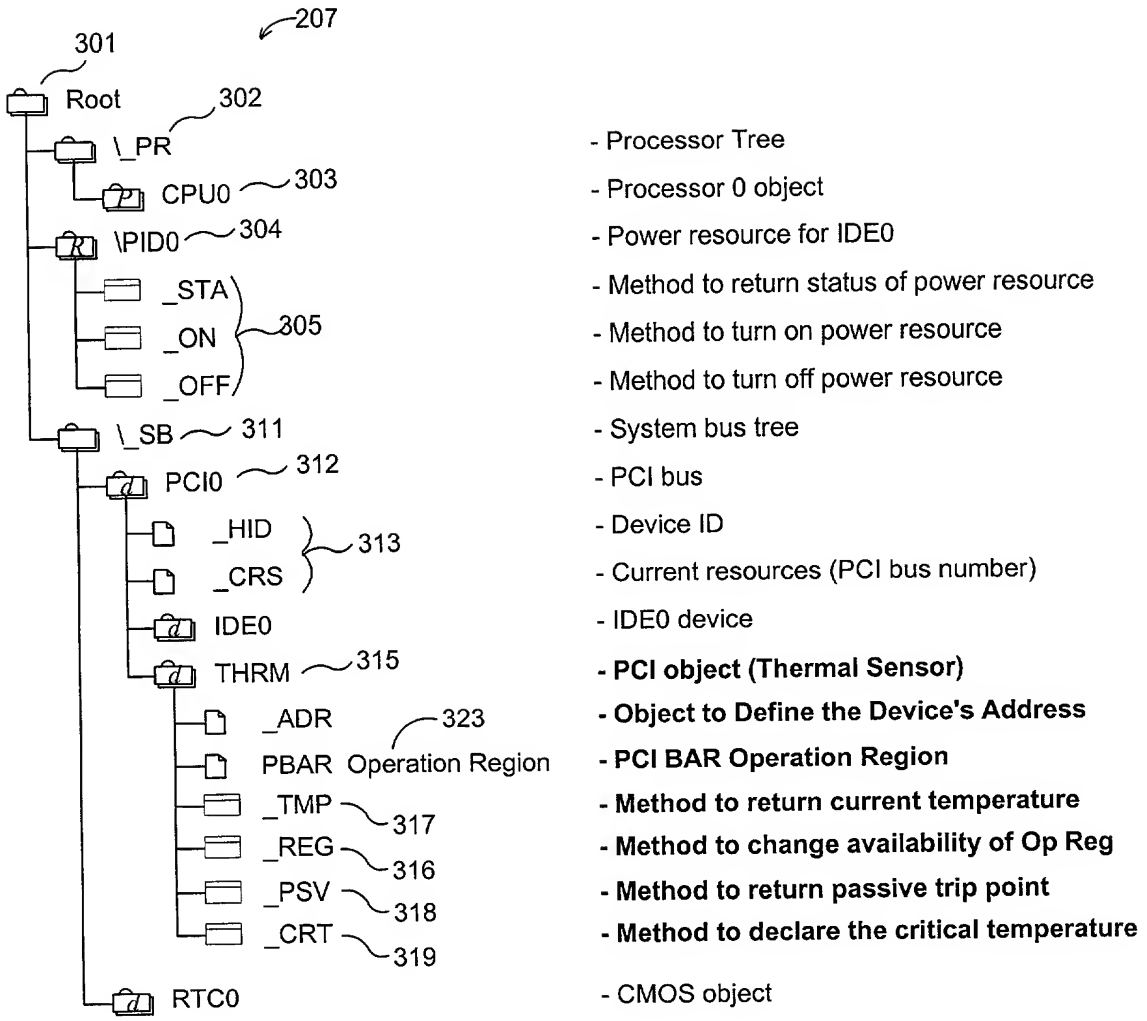
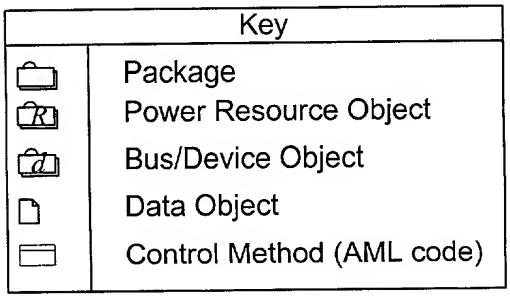

207
301
Root
302
_PR
CPU0
303
\PID0
304
_STA
_ON
_OFF
305
_SB
311
PCI0
312
_HID
_CRS
313
IDE0
THRM
315
_ADR
323
PBAR
Operation Region
_TMP
317
_REG
316
_PSV
318
_CRT
319
RTC0
- Processor Tree
- Processor 0 object
- Power resource for IDE0
- Method to return status of power resource
- Method to turn on power resource
- Method to turn off power resource
- System bus tree
- PCI bus
- Device ID
- Current resources (PCI bus number)
- IDE0 device
- PCI object (Thermal Sensor)
- Object to Define the Device's Address
- PCI BAR Operation Region
- Method to return current temperature
- Method to change availability of Op Reg
- Method to return passive trip point
- Method to declare the critical temperature
- CMOS object

FIG. 3


Key
Package
Power Resource Object
Bus/Device Object
Data Object
Control Method (AML code)

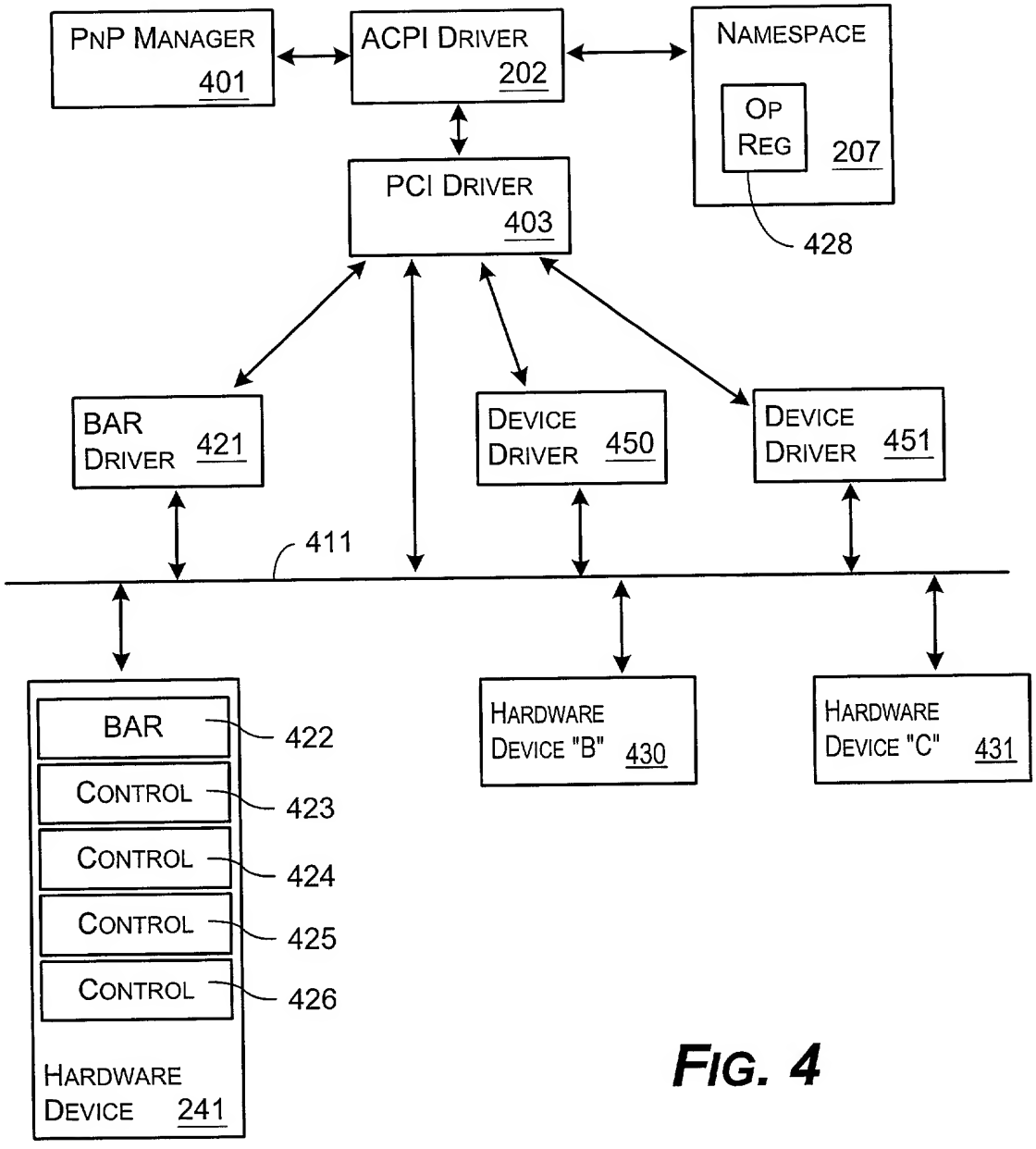

PNP MANAGER
401
ACPI DRIVER
202
NAMESPACE
OP
REG
207
428
PCI DRIVER
403
BAR
DRIVER
421
DEVICE
DRIVER
450
DEVICE
DRIVER
451
411
BAR
422
CONTROL
423
CONTROL
424
CONTROL
425
CONTROL
426
HARDWARE
DEVICE
241
HARDWARE
DEVICE "B"
430
HARDWARE
DEVICE "C"
431

FIG. 4

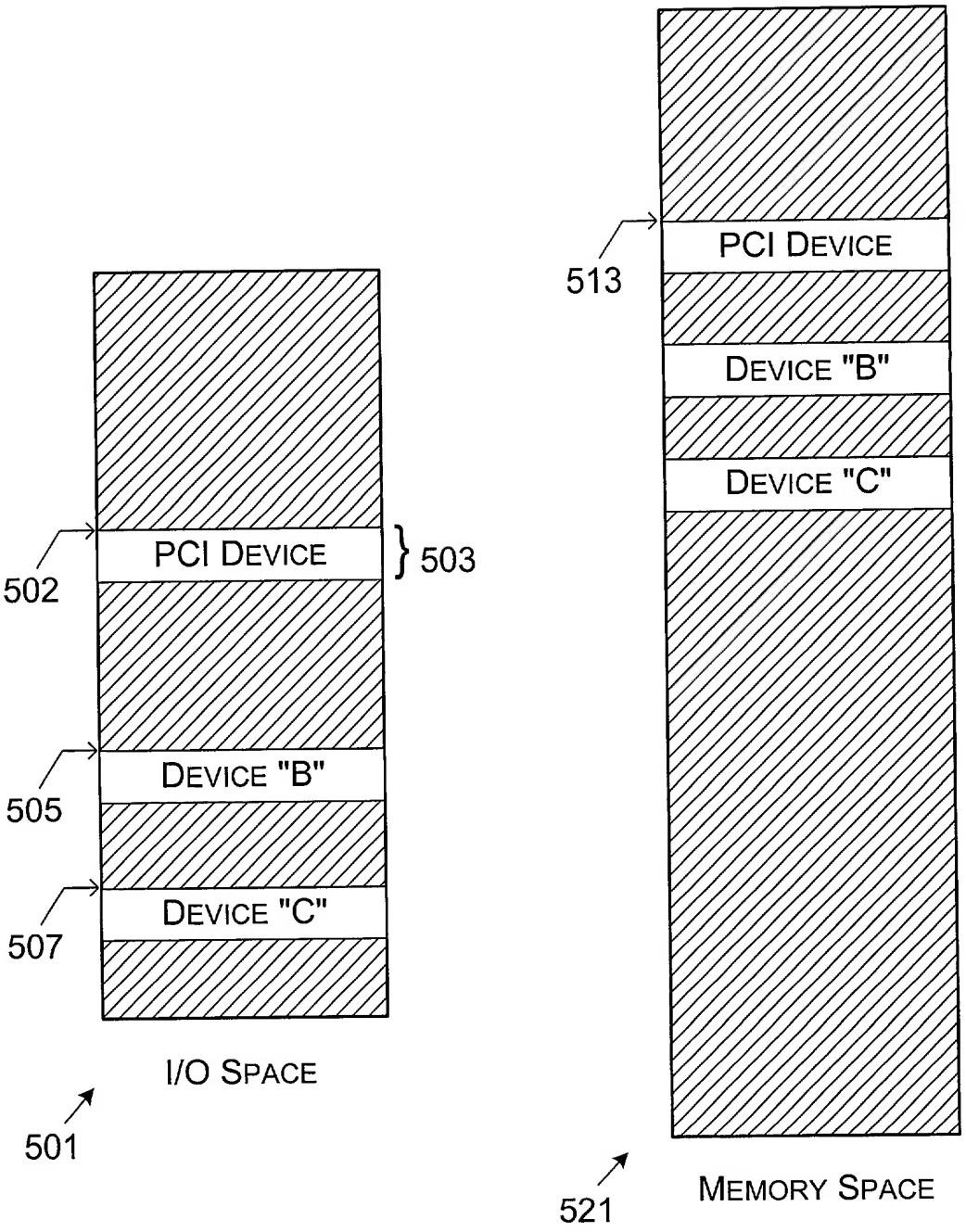

PCI DEVICE
513
DEVICE "B"
DEVICE "C"
PCI DEVICE
502
503
DEVICE "B"
505
DEVICE "C"
507
I/O SPACE
501
521
MEMORY SPACE

FIG. 5

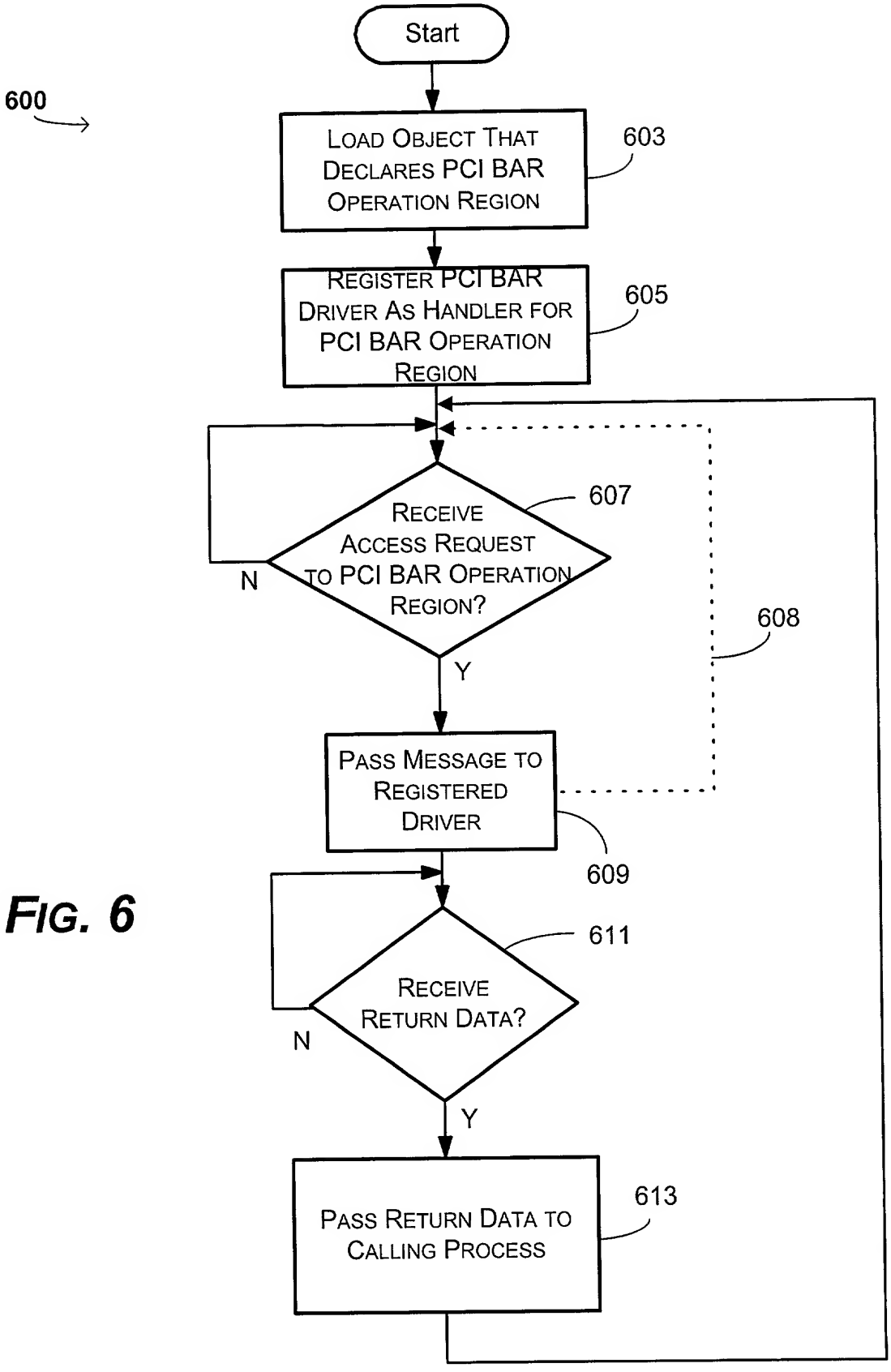

600
Start
LOAD OBJECT THAT DECLARES PCI BAR OPERATION REGION
603
REGISTER PCI BAR DRIVER AS HANDLER FOR PCI BAR OPERATION REGION
605
RECEIVE ACCESS REQUEST TO PCI BAR OPERATION REGION?
607
N
Y
608
PASS MESSAGE TO REGISTERED DRIVER
609
RECEIVE RETURN DATA?
611
N
Y
PASS RETURN DATA TO CALLING PROCESS
613

FIG. 6

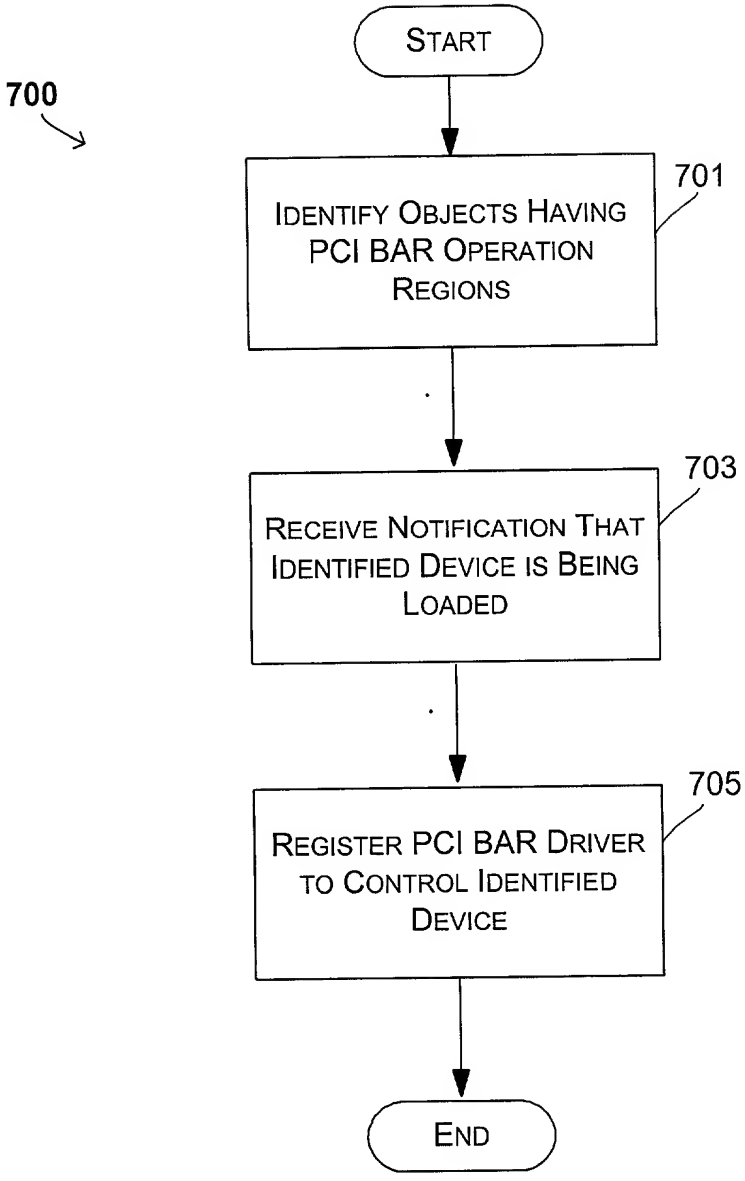

700
START
IDENTIFY OBJECTS HAVING PCI BAR OPERATION REGIONS
701
RECEIVE NOTIFICATION THAT IDENTIFIED DEVICE IS BEING LOADED
703
REGISTER PCI BAR DRIVER TO CONTROL IDENTIFIED DEVICE
705
END

FIG. 7